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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,980	04/21/2004	Robert Lombari	0263421-0044	6924
24280	7590	11/13/2006		
CHOATE, HALL & STEWART LLP TWO INTERNATIONAL PLACE BOSTON, MA 02110			EXAMINER GROSSO, HARRY A	
			ART UNIT 3781	PAPER NUMBER

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/828,980

Applicant(s)

LOMBARI, ROBERT

Examiner

Harry A. Grosso

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 7 is objected to because of the following informalities: The last three lines of the claim recite "a first portion of water entering the tank leaves the tank before a second portion of water entering the tank after the first portion of water leaves the tank." This seems redundant in that it appears to say the first portion of water leaves the tank before the second portion of water that enters the tank after the first portion has left. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Carter (2004/017362, September 9, 2004).

3. Regarding claim 1, Carter discloses a bladder for an expansion tank (Figure 6, paragraphs 0062-0063) with a non-flexible diaphragm (402) and a flexible diaphragm (404) that are sealed to one another at their peripheral edges.

4. Regarding claim 2, Carter discloses the diaphragms are heat sealed to each other (paragraphs 0062 and 0029).

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5. Regarding claim 4, Carter discloses an expansion tank with an outer shell (Figures 6 and 8, paragraph 0072), a flow through connector (408) providing fluidic communication between the interior of the bladder and the exterior of the tank, a non-flexible diaphragm (402) positioned between the connector and the flexible diaphragm (404). The diaphragms are sealed to one another at their peripheral edges and the space within the bladder is fluidically isolated from the space between the bladder and the outer shell.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carter in view of Hilverdink (4,784,181). Carter discloses the invention as discussed above but does not teach the use of a clench ring and a circumferential recess and groove in the peripheral edges of the diaphragms in the embodiment cited but does disclose that other techniques described therein can be used. Carter, in another embodiment, teaches the use of a clench ring to secure the peripheral edges of the diaphragms (Figure 3) and Hilverdink discloses the use of a recess and a groove in the peripheral edges of the diaphragms in conjunction with a clench ring to provide a very reliable seal (Figure 4, column 4, lines 3-6). It would have been obvious to one of ordinary skill in the

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art at the time the invention was made to have incorporated the use of a clench ring and a circumferential recess and groove in the peripheral edges of the diaphragms as disclosed by Carter and Hilverdink in the bladder disclosed by Carter because it is known in the art to use this technique to provide a very reliable seal.

1. Claims 1- 4, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilverdink in view of Carter.

8. Regarding claims 1 and 4, Hilverdink discloses an expansion tank with a bladder comprising two diaphragms disposed within (Figure 1) that are sealed to one another at their peripheral edges and a flow-through connector (6) providing fluidic communication between the interior of the bladder and the exterior of the tank.

Hilverdink does not teach the use of a flexible diaphragm and a non-flexible diaphragm. Carter discloses an expansion tank with a similar bladder (Figure 6) having a flexible diaphragm and a non-flexible diaphragm that is connected to a flow-through connector (paragraphs 0062-0063) that allows the non-flexible diaphragm to be made of a material that reduces costs for the diaphragm assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the use of a flexible diaphragm and a non-flexible diaphragm as disclosed by Carter in the bladder disclosed by Hilverdink to reduce costs for the diaphragm assembly.

9. Regarding claim 2, Hilverdink does not teach heat sealing the peripheral edges of the diaphragm together. Carter discloses the diaphragms can be sealed together using various techniques including heat sealing (paragraphs 0062 and 0029). It would

have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the use of heat sealing to seal the diaphragms together as disclosed by Carter in the tank disclosed by Hilverdink to eliminate the need for the clench ring.

10. Regarding claim 3, Hilverdink discloses the use of a recess and a groove in the peripheral edges of the diaphragms in conjunction with a clench ring to provide a seal (Figure 4, column 4, lines 3-6).

11. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lombari et al (6,263,247) (Lombari) in view of Carter.

12. Regarding claim 4, Lombari discloses a tank with a bladder (600A) and a flow through connector (Figures 4A, 4B, 7A, 7B, 8) providing fluidic communication between the interior of the bladder and the exterior of the tank, Lombari does not teach the bladder has a non-flexible and a flexible diaphragm. Carter discloses a similar tank structure (Figures 3-5) with a flexible and a non-flexible diaphragm and a flow through connector (356) provides a path through the non-flexible diaphragm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the use of a flexible and a non-flexible diaphragm as disclosed by Carter in the tank disclosed by Lombari to reduce the materials costs for the bladder assembly.

13. Regarding claim 5, Lombari discloses the connector having a nipple (400) with first and second ends and a plurality of tabs (431-435, column 5, lines 39-48) on the nipple manipulable between an insertion position and a securing position.

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lombari as modified by Carter in view of Stilwell (3,247,999). Lombari and Carter disclose the invention and Lombari further discloses an o-ring to seal the edge on one side of the bladder adjacent the flow connector but does not teach the use of an o-ring between both a first retainer ring and the bladder and a second retainer ring and the bladder. Stillwell discloses a flow-through connector with a nipple (14, Figure 5), a first retainer ring (15), a second retainer ring (17) and o-rings between both a first retainer ring and the bladder and a second retainer ring and the bladder (Figure 5, column 3, lines 10-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the use of o-rings between both a first retainer ring and the bladder and a second retainer ring and the bladder as disclosed by Stillwell in the connector disclosed by Lombari to provide a compressible seal on both sides of the diaphragm to better prevent leakage.

***Allowable Subject Matter***

15. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Keijzer et al (6,343,622) discloses a similar valve structure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry A. Grosso whose telephone number is 571-272-4539. The examiner can normally be reached on Monday through Thursday from 7am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Anthony Stashick  
Supervisory Patent Examiner  
Art Unit 3781

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